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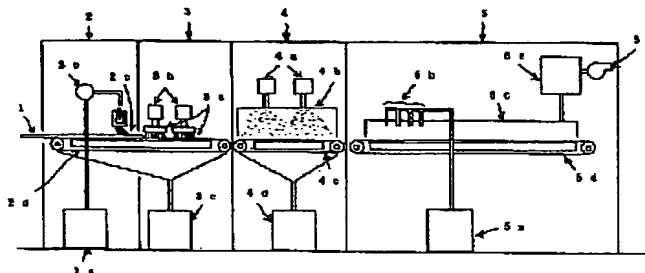
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TITLE : FORMATION OF PATINA FILM AND
DEVICE THEREFOR



ABSTRACT : PROBLEM TO BE SOLVED: To easily form an artificial patina film on the surface of a substrate in a short time by applying a patina color developing soln. on the surface of a copper or copper alloy substrate, brushing the substrate, then adding moisture and further supplying an oxidizing gas.

SOLUTION: A long-sized sheet 1 consisting of copper or copper alloy is continuously passed through a patina color developing soln. coating mechanism 2, and a patina color developing soln. such as an aq. copper sulfate soln. added with hydrochloric acid, nitric acid, ammonium sulfate, alkali metal oxide, etc., is applied by a brush, etc. The sheet 1 is brushed by a brushing mechanism 3, and the soln. is brought into sufficient contact with the sheet 1 surface to promote a reaction. The sheet 1 is then passed through a humidifying mechanism 4, and a minute amt. of moisture is added in a humidification tank 4b provided with a vaporizing mechanism 4a. The sheet 1 is further passed through an oxidizing gas feed mechanism 5, then passed through an oxidation tank 5c and forcedly oxidized with an oxidizing gas such as ozone from an oxidizing gas generating mechanism 5a, hence cuprous oxide and copper oxide are formed on the sheet surface, and a bright patina color is developed.

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